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Conservation Pledge

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters and wildlife

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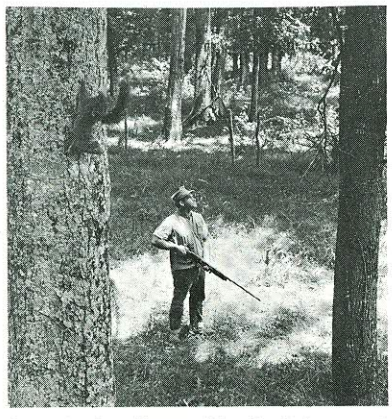

Some bushytails are "foxy" little animals and it takes lots of hunting "know how" to bag one of the tricky little rascals. Some hunters are convinced that all squirrels are ventriloquists. You think you hear the bark and the ruffle of the tail in one tree, then lo and behold he turns up in the opposite direction. (Photo by Robert N. Dennie)

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AMMONIUM NITRATE BLASTING AGENT

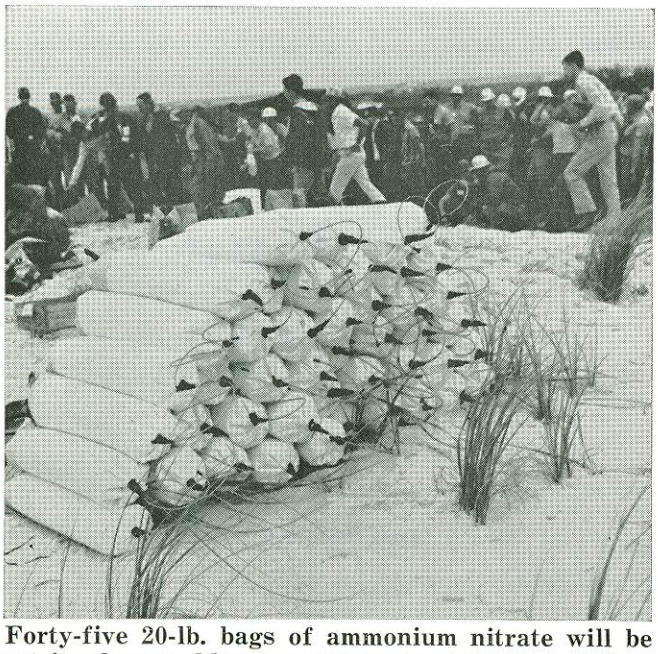
Ted Joanen

THE REDUCTION in wetland habitat throughout the United States and Canada as a result of drainage from increasing agricultural demands, oil development and housing projects has caused much concern among many public and private wildlife groups. Many kinds of wildlife depend upon or benefit from wetlands.

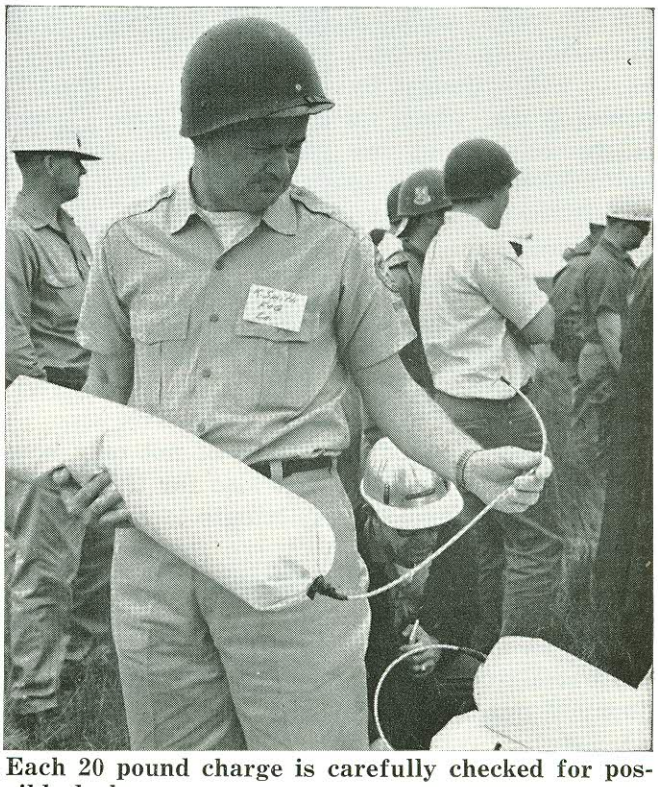
Much is being done on public lands to preserve our remaining wetlands, although this alone will not off-set declining habitat. The majority of our wetland areas are on private lands, and the cost of improving these areas for wildlife in many cases have been out of reach of the private landowner.

For the first time many landowners have the opportunity to improve relatively unproductive marshes at a cost within their means. The use of a relatively new and inexpensive blasting agent, ammonium nitrate and fuel oil, will permit landowners to enhance the value of their marshes as waterfowl habitat.

Ammonium nitrate is a common chemical fertilizer. It is not an explosive in itself but when mixed with a carbonaceous carrier such as fuel oil, and detonated with an explosive primer, it becomes an effective blasting agent having the same strength as dynamite. Although draglines and bulldozers are very effective in developing wildlife habitat, the cost of operating these machines and poor access often limit their use.



Forty-five 20-lb. bags of ammonium nitrate will be set in place to blast a pond 40 ft. x 50 ft. x 3 ft.



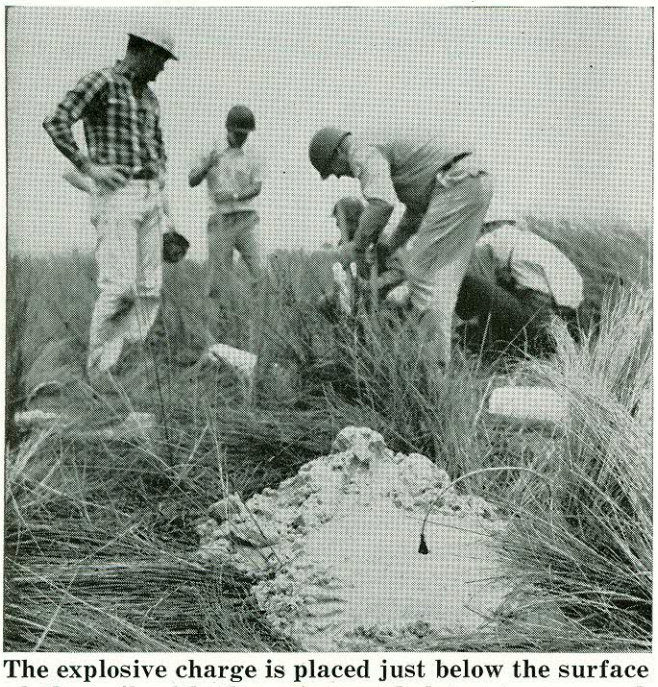
Each 20 pound charge is carefully checked for possible leaks.

The mixture of ammonium nitrate and fuel oil is called a blasting agent rather than an explosive. A small amount of dynamite is used to provide the heat and shock needed to trigger the explosion which is actually a very rapid uniting of fuel with the oxygen in the ammonium nitrate.

Biologists of the Michigan and Wisconsin Conservation Departments and the United States Forest Service were among the first to use this blasting agent for wildlife habitat improvement. Results of their work on the Horicon Marsh in Wisconsin showed excellent use by mallards and blue-winged teal. Many deer, mink, pheasants and rabbits were found using potholes.

To better acquaint wildlife techniques in the Southeastern part of the United States with the use of this blasting agent, a demonstration was given recently on Horn Island National Wildlife Refuge and sponsored by the U. S. Fish & Wildlife Service, the Louisiana Wild Life and Fisheries Commission and the Louisiana State University School of Forestry and Wildlife Management. Ted

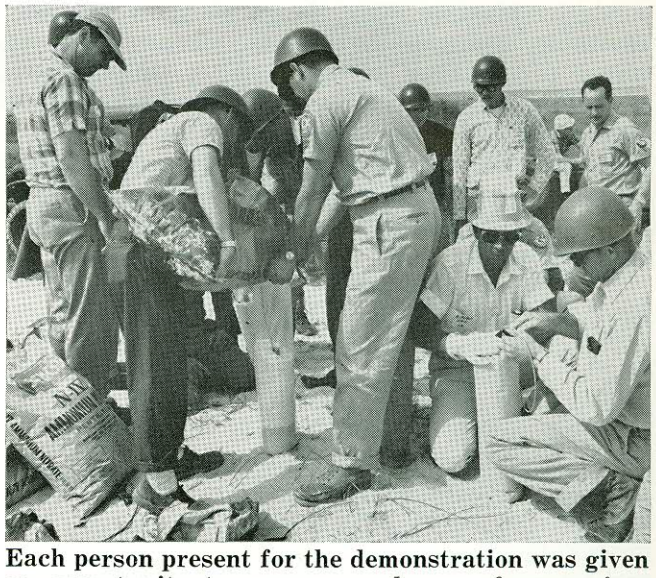
Haley representing Spencer Chemical Division of Gulf Oil Corporation gave the demonstration. One 40-foot by 50-foot pond, 3 feet deep was produced with about 900 pounds of ammonium nitrate, blasting grade, at a cost of about $60.00. In Wisconsin a single 50 pound charge produced a pothole 20-25 feet in diameter and 5 1/2 feet deep. A 25 pound charge produced a hole about 15 feet in diameter and 4 feet deep. The blasting grade ammonium nitrate costs about $2.50 per 50 pound sack. Total cost including labor, of a typical pothole in Wisconsin (20 x 35 by 5 feet deep) using two 50 pound charges of ammonium nitrate was about $15.00. Material cost per yard of dirt removed was found to be about 5 cents. Predictions on the size of potholes produced by any given size charge was unreliable because many factors such as soil types, water conditions, and wind strength influence the size and shape of blasted potholes. About 150 pounds is the general upper limits that is advisable with many areas restricted to smaller charges because of nearby houses. One particularly bad practice occurring at times is the loading of excessive charges in the first shot to be tried without realizing what the consequences might be. Workers in Wisconsin have found that a 100



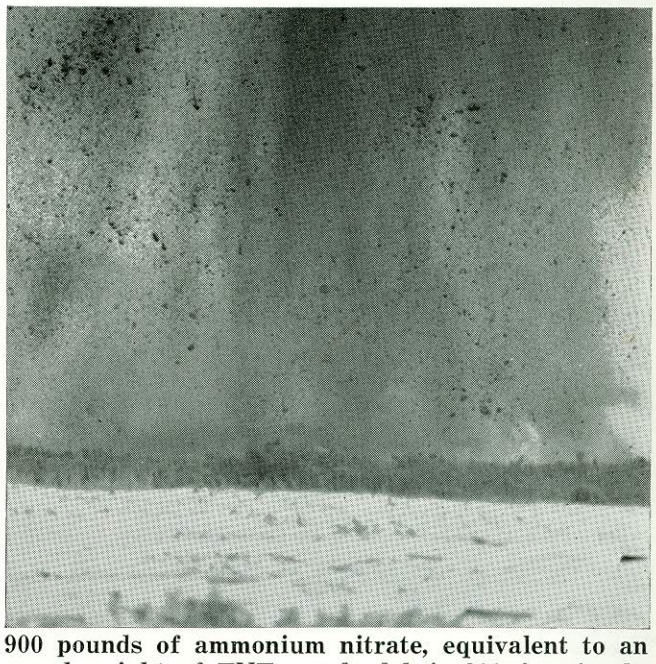
The explosive charge is placed just below the surface of the soil with the prima-cord detonator exposed. This is connected to other charges by means of another prima-cord trunkline.

pound charge may break windows over half a mile away. A strong wind blowing away from the axis of the charge will help keep debris from falling into the excavation and is especially helpful for large diameter holes. One disadvantage of using ammonium nitrate is that it must be kept dry. Charges are normally placed three to four feet below the surface of the ground and when used in marsh conditions, the ammonium nitrate must be sealed in waterproof bags. Water will render it ineffective as a blasting agent.

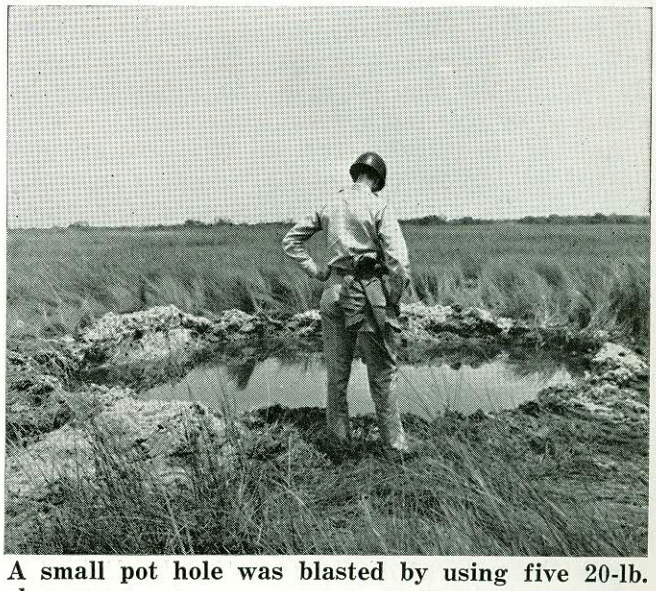
In general it is not possible to deepen fish



Each person present for the demonstration was given an opportunity to prepare a charge of ammonium nitrate.



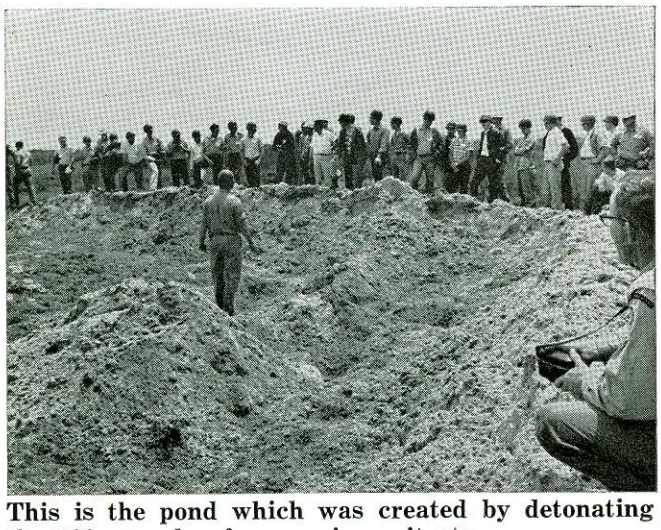
900 pounds of ammonium nitrate, equivalent to an equal weight of TNT, sends debris 200 feet in the air.



A small pot hole was blasted by using five 20-lb. charges.

ponds by blasting. Very large shots are seldom advisable. Ammonium nitrate blasting is best suited for making small potholes. One or two shots in a large temporarily dry pond may create deeper holes. Most of the blasted material, however, is deposited within a hundred feet and little actual deepening is accomplished. Longevity is likely to be very short if ponds are flooded since debris tends to settle in the deeper holes.

Blasting of a few potholes for habitat improvement does some good but if the program is to have a real impact on duck production potholes are needed in really large numbers. Breeding ducks like to move about for short distances during the breeding season even when not disturbed. Concentrations of potholes permit these movements and also encourage more ducks to use an area. Concentrations of potholes should also benefit broods by providing intermediate feeding and resting areas. A pothole spacing of 200-300 feet is recommended for intensive management. Also alligators, frogs, crawfish, and turtles can be easily encouraged if the potholes are in large enough numbers to supply the requirements of these forms of wildlife. Ammonium nitrate mixture could probably be used to good advantage in the removal of complaint beaver dams by persons authorized to undertake this type of activity. By spacing the charges in a line, ditches can be produced by this method.



This is the pond which was created by detonating the 900 pounds of ammonium nitrate.

Ammonium nitrate—fuel oil mixtures are not classed as explosives, but as "blasting agents." They must be considered dangerous and handled or stored like any other high explosive. Their use should be supervised by someone experienced in the handling of explosives. ✠

(Editor Note)

Portions of this article have been taken from "Pothole Blasting for Wildlife", Wisconsin Conservation Department, 1965, by Harold A. Matkiak, and "Marsh Blasting with Ammonium Nitrate". Forest Service, U. S. Department of Agriculture and Michigan Department of Conservation by Robert Radthe, U. S. F. S. and John Byelich, M.D.C.

U. S. Fish and Wildlife Service Surveys Need for Hatchery Fish

A survey to determine future needs for hatchery fish to help manage the nation's fishing was announced recently by Secretary of the Interior Stewart L. Udall.

The survey will be made by the Department's Bureau of Sport Fisheries and Wildlife in cooperation with State fish and game departments. It will be used to estimate the water now suitable for sport fishes, how much of this is or should be stocked, fisherman numbers, future stocking needs, and capabilities of National, State, and private hatcheries. The survey is also expected to be helpful in deciding the future roles of public and private hatcheries.

In announcing the survey, Secretary Udall said data gathered will be projected to cover needs for "hatchery fish" in 1973, 1980, and 2000.

"The role of artificial production in providing for America's angling needs must be better defined," he said. "Stocking and production guidelines resulting from this survey are needed to keep up with the ever-increasing angling pressure while still maintaining or improving the quality of fishing."

Full cooperation from State game and fish departments was pledged in a letter to the Bureau of Sport Fisheries and Wildlife from William E. Towell of Missouri, president of the International Association of Game, Fish, and Conservation Commissioners.

Three More Camps Ready at Pass-a-Loutre Area

Plans are underway to provide Louisiana duck hunters the opportunity to utilize the Pass-a-Loutre Waterfowl Management Area again this season. Details of the over-all hunting program on Pass-a-Loutre will be published in the November-December issue of the CONSERVATIONIST.

Marsh conditions at the present time look very good in spite of the severe damages sustained by Hurricane Betsy last fall.

The three public camps destroyed by the hurricane are being rebuilt and will make a total of nine camps available to hunters utilizing the area this season. ✠

The muskrat, a common inhabitant of Louisiana's marshes, ranges in size from 16 to 25 inches. It lives in both salt and freshwater marshes. Its voice consists of squeals, squawks, snarls and groans. It is most active at night and it swims at 2-3 miles per hour. Its food consists of rootstocks and stems, cattails, roseau cane shoots, crabs and crayfish, ribbed mussels and some small fish.